

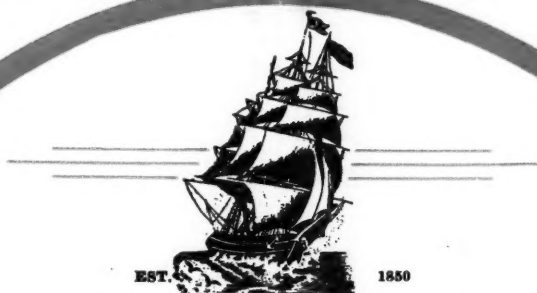
The American Fertilizer



Vol. 97

OCTOBER 24, 1942

No. 9



92 YEARS OF SERVICE

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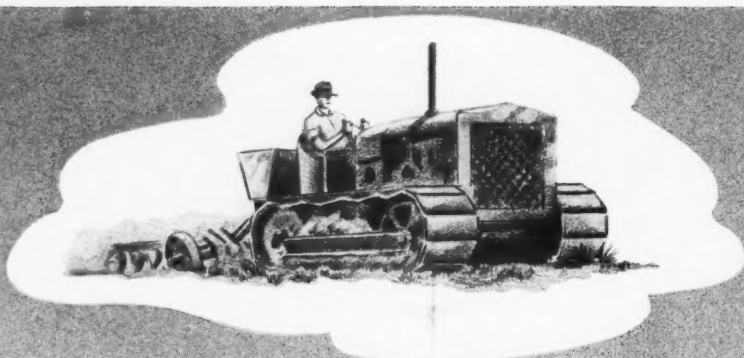
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See page 23

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

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AMERICAN FERTILIZER

"That man is a benefactor to his race who makes two blades of grass to grow where but one grew before."

Vol. 97

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No. 9

Expanding Markets For Agricultural Gypsum¹

By FORREST T. MOYER²

STATEMENTS recently have emanated from several war agencies in Washington to the effect that the economy of the country has undergone a transition from planning and construction into the production stage. This statement, together with the War Production Board's "stop-construction" order of April 9, presages a declining rate of consumption in the near future for all mineral building materials. Naturally it behooves producers of such materials to closely examine all consuming markets and to investigate carefully any nonbuilding uses that appear expandable.

From a tonnage viewpoint, one of the few important nonbuilding uses of gypsum is for fertilizer and other agricultural purposes, in which roles it has been claimed by investigators to supply plant food, to be an effective soil-conditioner, to render black alkali soils arable, and to preserve the volatile nitrogen compounds of manure. Benjamin Franklin, one of the earliest advocates of agricultural gypsum, is said to have applied it to a hillside of clover in the form of the words "Land Plaster Used Here." The treated clover grew so much more luxuriant and rank than the rest that the words could be read easily from distant points.

Consumption centers of agricultural gypsum lie in the South Atlantic States, where it is used as peanut fertilizer, and in the Rocky Mountain and Western States, where it is used to condition alkali soils and also as a general fertilizer. Only relatively small quantities are sold in other sections of the

country. In the Rocky Mountain and Western States, two types of agricultural gypsum are used; one is made from massive rock gypsum or anhydrite, and the other from gypsite. The gypsite variety is not processed to a great degree and sometimes is applied to the soil in the crude form. Due to the low mining and processing costs and a lower degree of purity, the average sales value,

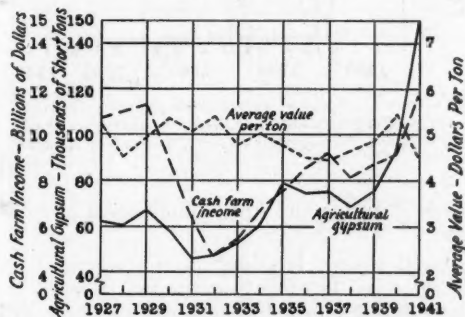


FIGURE 1. Trends in average value per ton and consumption of agricultural gypsum compared with cash farm income, 1927-41. Data from Minerals Yearbooks, Bureau of Mines, and Agricultural Statistics, Department of Agriculture.

f. o. b. plant, of the gypsite variety is much lower than for land plaster made from rock gypsum.

The fair correlation of consumption of agricultural gypsum with cash farm income since 1932 is shown in Fig. 1. Although both dropped sharply from 1929 to 1932, the decline in cash farm income was twice as great proportionally as that shown by sales of land plaster. In 1941 the marked gain in

¹ Published by permission of the Director, Bureau of Mines, United States Department of Interior.

² Associate mineral economist, Nonmetal Economics Division, University, Alabama.

sales was due entirely to increased use of land plaster in the western part of the country, particularly the gypsite variety in California; in the South Atlantic States sales declined slightly. Consumption has risen rapidly in recent years in California, where agricultural gypsum is used principally on potatoes, cotton, alfalfa and grapevines on all types of soils. Its use on grains and beans and in orchards also is reported to be growing.

As is true of all fertilizing or soil-conditioning materials, sales of agricultural gypsum follow a distinct seasonal pattern (see Fig. 2), in which the peak volume generally is

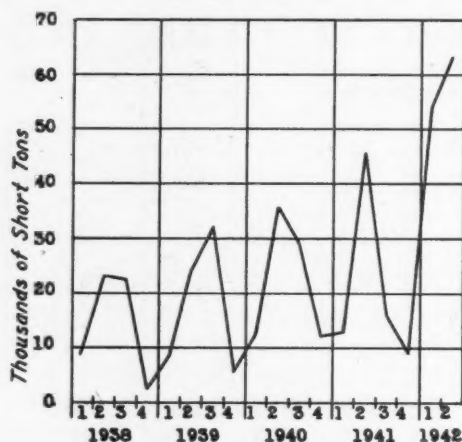


FIGURE 2. Sales of agricultural gypsum, showing seasonal characteristics, 1938-42, by quarters. Data from Quarterly Gypsum Reports, Bureau of Mines.

reached during the April-June period of each year.

Land plaster has long been recognized as an effective fertilizing agent for peanuts in the Virginia-North Carolina region where the "jumbo or Virginia" type is the dominant peanut crop. In 1941, consumption of land plaster in this area, as indicated by sales reports to the Bureau of Mines, was approximately 54,000 short tons, a total nearly 9,000 tons below the consumption in 1940 (see Table I). This decline occurred despite much larger cash farm-income in 1941 and was occasioned primarily by the increasing difficulties of obtaining crude supplies by water from Canada. Another contributing factor probably was the rise in price necessary to cover the greatly increased cost of transporting crude to Norfolk, the principal processing and distributing center. As measured by the rise in average sales values

f. o. b. processing plant from \$5.55 per ton in 1940 to \$6.85 in 1941, the average gain in price was nearly 25 per cent in this market area.

In past years, three sources of crude gypsum or anhydrite have been available to the Virginia-North Carolina consuming-area, which extends southward from Norfolk and Richmond, Va. to Raleigh and Wilmington, N. C. The two domestic sources consist of a plant producing by-product material at Charleston, S. C., and two operations working natural gypsum near Saltville, Va., which is approximately 350 rail miles from the peanut region. Crude material (principally anhydrite) from Canada represents the third source and under normal peacetime condi-

TABLE I—INDICATED CONSUMPTION OF AGRICULTURAL GYPSUM IN THE UNITED STATES, 1937-41

	CONSUMED AS PEANUT FERTILIZER ¹		TOTAL	
	short tons	avg. value	short tons	avg. value
1937	45,000	\$4.55	74,932	\$4.43
1938	43,000	4.45	68,470	4.65
1939	49,000	4.70	75,091	4.86
1940	62,000	5.55	92,232	5.45
1941	54,000	6.85	149,196	5.47

¹ Virtually all consumed in the Virginia-North Carolina area.
² Data not strictly comparable with previous years.

tions constitutes approximately 80 per cent of total consumption in the area. As the war's effects on coastwise shipping became more pronounced, the domestic sources became more important and in 1941 supplied about $\frac{1}{3}$ of the tonnage sold in this section. Further expansion of domestic supplies is predicated by the requisitioning on April 18 of the services of all American-owned freighters by the War Shipping Administration, an act that undoubtedly presages a further curtailment and probable cutting off of Canadian crude. Some gypsum boats, however, are not under American registry so that the total effect of the requisitioning cannot be foretold. In view of the stoppage by the War Production Board of all construction not essential to the war program, domestic sources can alleviate the shortage in the consuming areas to a greater extent than ordinarily would be possible.

Other peanut-producing sections of the country are the Southeast (South Carolina, Georgia, Florida, Alabama, and Mississippi) and the Southwest (Arkansas, Louisiana,

(Continued on page 8)

Clarifying Questions and Answers On WPB Order M-231

IN ORDER to answer questions in the minds of fertilizer manufacturers, dealers and agents on the specific interpretation to be given various sections of Order M-231 placing limitations on the packaging and sales of fertilizers, the War Production Board has issued a leaflet, prepared in the form of questions and answers, dealing with 17 points on which further information was deemed advisable.

A summary of Order M-231, together with the list of approved grades, was published in THE AMERICAN FERTILIZER, issue of September 12, 1942.

1. (Q.) Does this order apply to states not listed in Schedule A?

(A.) Yes. All restrictions except those provided for in paragraph (b) (1) apply to all states, territories and possessions of the United States.

2. (Q.) Can we distribute in the State of Illinois, for example, any grade of fertilizer other than those grades listed on Schedule A as applicable to Illinois?

(A.) No, see paragraph (b) (1), unless one of the specific exemptions set forth in paragraph (c) is applicable, or unless the fertilizer is a grade in which the nitrogen is all organic, in which event paragraph (d) applies.

3. (Q.) As a dealer or agent not manufacturing or mixing fertilizers, am I permitted to sell stocks of unapproved grades which I had on hand September 12, 1942, the effective date of the order?

(A.) Yes. See paragraph (c) (1) (i), subject, however, to all restrictions of paragraph (b) (2).

4. (Q.) As a manufacturer, dealer or agent, am I permitted to sell for use on crops in another state, grades which are not approved for that state?

(A.) No. See paragraph (b) (1).

5. (Q.) As a manufacturer, dealer or agent, am I permitted to sell for any other use, a grade which is approved only for a designated crop or use?

(A.) No. See paragraph (b) (1).

6. (Q.) As a fertilizer manufacturer, dealer or agent, am I prohibited from selling any chemical fertilizer to a fertilizer manufacturer for use in the manufacture of chemical fertilizer?

(A.) No. See paragraph (c) (1) (ii).

7. (Q.) I am a manufacturer. Do the exemptions in paragraph (c) (1) (i), applying to stocks of unapproved grades in the hands of dealers and agents, also apply to stocks in my warehouses, which stocks were provided to supply agents?

(A.) No. The exemption applies only to dealers and agents.

8. (Q.) Can I manufacture a chemical fertilizer containing chemical nitrogen and pack it in bags or containers of any size?

(A.) No. Paragraph (b) (2) (iii) specifically limits packing to bags of not less than 100 pounds, unless you had on hand on September 12, 1942, bags of not less than 80 pounds capacity which you may use until the supply is exhausted.

9. (Q.) As a fertilizer dealer or agent am I permitted to sell fertilizers containing chemical nitrogen in packages of less than 80 pounds which I had in stock on September 12, 1942?

(A.) Yes, provided such stock was packaged on or prior to September 12, 1942. See paragraph (c) (2) (ii). However, the exemptions provided for in paragraphs (c) (1) (i) and (2) (ii) do not apply to manufacturers.

10. (Q.) We purpose to manufacture and market a 3-10-3 fertilizer for use on lawns, flowers and gardens. The nitrogen in this mixture will consist entirely of organic nitrogen. Can we pack this in various size bags from 1 to 100 pounds?

(A.) Yes. There are no restrictions (see paragraph (c) (1) (iii)) other than those provided for in paragraph (d), on the manufacture, sale, and use of a chemical fertilizer where the entire nitrogen content is organic nitrogen, subject, however, to state regulations as provided in paragraph (f).

11. (Q.) Am I permitted to sell fertilizers containing chemical nitrogen for use on pastures, haycrops and grasses for seed production?

(A.) Yes, if fertilizers are approved grades, and if the pasture is for grazing purposes only, or for the combined purpose of grazing and producing hay or seeds of permanent pasture grasses. Note, however, the prohibited use of chemical nitrogen specified in paragraph (b) (2) (i).

(Continued on page 20)

October Crop Report

The outstanding heavy crop yields that have been in prospect for several months are now in sight but not yet "in the bag." Record crops are indicated for corn, barley, all grain, all hay, beans and peas, oilseeds, sugar crops, commercial vegetables for market, vegetables for canning and processing, and probably fruits. Average to ample production of most other crops is in evidence. As the harvest progresses under difficulties, however, farmers are showing less assurance that the tremendous job of harvesting can be completed in season. A wet fall or an early winter would probably catch a big volume of crops still in the fields, but there is no longer any doubt that an unprecedented volume of crops has been grown.

The estimate for corn has been raised 4

per cent to 3,132,000,000 bushels, which surpasses the former all-time high crop of 1920. In that year corn was harvested from 101 million acres in comparison with this year's 89 million. The yield of corn per acre is expected to be 35 bushels per acre, compared with the previous high record of 31.7 bushels set in 1906. Illinois, Indiana, Ohio and Iowa all show record corn yields of 53 to 59 bushels per acre.

Wheat is nearly all harvested and production appears to be about 984,000,000 bushels, a quantity that has been exceeded only in 1915. The yield of wheat is estimated at 19.5 bushels per acre, although last year's crop was only the 5th to exceed 16 bushels and the first to reach 16.9. Hay, beans, peas and potatoes and cotton all show exceptionally high yields per acre, and a wide range of crops including oats, barley and sugarcane show yields close to the top figures during the last 60 years.

When all crops are added together, the record is impressive. Crop yields per acre will be about 36 per cent above the 1923-32 or pre-drought average. In comparison, yields in the other outstandingly favorable seasons—1937, 1940 and 1941—ranged from 17.7 to 20.7 per cent above the pre-drought level. Aggregate crop production this season does not appear correspondingly high because of the smaller acreage planted to cotton and some other crops.

Production of principal truck crops for market is indicated to total 7,265,500 tons—the largest production on record. Since there was very little increase in acreage, most of the increase in production is due to higher yields. Frosts during September terminated the growth of most tender vegetables in the Northern and Eastern States, but for hardier crops in these areas, growing conditions were mostly favorable during September. Vegetable crops for fall and winter consumption in the southern and far-western States have made good progress in general thus far.

Prospective production of commercial-truck crops for harvest during the next few weeks is 9 per cent above that of the corresponding period last year and 24 per cent above the 10-year average for this period. Supplies of beets, cabbage, carrots, lettuce, onions, cauliflower, and spinach especially are expected to be abundant compared with recent years. Supplies of late peas are expected to be very short.

On October 1 aggregate tonnage of 8 important truck crops for processing—beets, lima beans, snap beans, kraut, cabbage,

CROP	Total Production (in thousands) Indicated		
	Average 1930-39	1941	Oct. 1 1942 ¹
Corn, all, bu.....	2,307,452	2,672,541	3,132,002
Wheat, all, bu.....	747,507	945,937	984,046
Winter, bu.....	569,417	671,293	697,708
All spring, bu.....	178,090	274,644	286,338
Durum, bu.....	27,598	41,800	43,546
Other spring, bu.....	150,492	232,844	242,792
Oats, bu.....	1,007,141	1,176,107	1,369,540
Barley, bu.....	224,970	358,709	426,188
Rye, bu.....	38,472	45,191	59,665
Buckwheat, bu.....	7,315	6,070	6,620
Flaxseed, bu.....	11,269	31,485	42,682
Rice, bu.....	45,673	54,028	71,598
Grain sorghums, all, bu.....	84,253	153,968	149,322
Hay, all tame, ton.....	69,650	82,358	91,583
Hay, wild, ton.....	9,083	11,749	13,331
Hay, clover and timothy, ² ton.....	24,587	23,106	27,667
Hay, alfalfa, ton.....	24,907	32,346	35,853
Beans, dry edible, 100-lb. bag.....	13,297	18,788	21,269
Peas, dry field, bag.....	2,623	3,788	7,255
Soybeans for beans, bu.....	35,506	106,712	200,701
Peanuts, ³ lb.....	1,067,438	1,476,845	2,921,950
Potatoes, bu.....	370,045	357,783	376,309
Sweet potatoes, bu.....	73,208	63,284	70,544
Tobacco, lb.....	1,394,839	1,261,364	1,422,808
Sugarcane for sugar and seed, ton.....	4,729	5,462	7,369
Sugar beets, ton.....	9,284	10,311	12,969
Broomcorn, ton.....	41	47	36
Hops, lb.....	434,784	440,380	35,042
Apples, com'l crop, bu.....	123,798	122,059	128,386
Peaches, total crop, bu.....	454,706	474,451	65,498
Pears, total crop, bu.....	427,253	429,533	30,472
Grapes, ⁴ ton.....	2,246	2,729	2,535
Pecans, lb.....	81,166	121,488	87,900

¹ For certain crops, figures are not based on current indications, but are carried forward from previous reports.

² Excludes sweetclover and lespedeza.

³ Picked and threshed.

⁴ Includes some quantities not harvested.

⁵ Production includes all grapes for fresh fruit, juice, wine, and raisins.

(Continued from page 20)

The Atlanta Convention

The program for the Annual Southern Convention of the National Fertilizer Association has now been practically completed. The meetings will be held in the Biltmore Hotel, Atlanta on Monday, Tuesday and Wednesday, November 16th, 17th and 18th. The first day of the Convention will be devoted to registration and to meetings of the Board of Directors and of the Soil Improvement Committee. Open sessions will be held on Tuesday and Wednesday mornings. The program on Tuesday will include addresses on problems of fertilizer manufacture and application, while the Wednesday session will conclude with a general discussion of the problems of fertilizer distribution during the coming season.

The Annual Industry Dinner will be held Tuesday evening and will feature a prominent speaker and the showing of the Association's new moving picture, "The Life of the Soil."

MONDAY, NOVEMBER 16

10:00 A. M. Meeting of the Board of Directors.
2:30 P. M. Meeting of the Soil Improvement Committee.

TUESDAY, NOVEMBER 17

10:00 A. M. *Opening Address*—John A. Miller, President, The National Fertilizer Association.

Address—"Fertilizers in the War Program," Dr. F. W. Parker, Chief, Division of Fertilizer Research, U. S. Department of Agriculture, Washington, D. C.

Address—"Saving Southern Soils," Dr. T. S. Buie, Regional Conservator, Soil Conservation Service, Spartanburg, S. C.

Address—"Price Ceilings and Fertilizer Problems," John K. Westberg, Associate Price Executive, Food and Food Products Branch, Office of Price Administration, Washington, D. C.

TUESDAY EVENING

7:00 P. M. Annual Industry Dinner. Presiding, John A. Miller, President.

Introduction of Guests.

Address—Speaker to be announced.

"The Life of the Soil," a new all-color sound motion picture produced by the Association.

WEDNESDAY, NOVEMBER 18

President John A. Miller in the Chair

10:00 A. M. *Address*—"Problems of Equitable Distribution of Fertilizer in 1943," Dr.

William H. Martin, Dean, College of Agriculture, Director of the New Jersey Experiment Station, and Consultant on Fertilizers and Insecticides, War Production Board, Washington, D. C. (Invited)

Round Table Discussion—"The Industry Plan for Distribution of Fertilizer in 1943." Discussion Leader, R. B. Douglass, Chairman of the Special Industry Committee on Fertilizer Distribution. (Invited)

Farm Income to Pass Previous War Peak

Net farm income of farm operators in 1942 is now forecast by the Department of Agriculture at 9,785 million dollars, an increase of more than 3 billion dollars, or about 45 per cent over 1941 and more than double the 1935-39 average. This is about a billion dollars more than at the 1919 peak of the previous war period. Net farm income per capita in 1942 will be about 136 per cent of income parity. In World War I, net farm income rose from 97 per cent of parity in 1916 to 147 per cent in 1917 and the record level of 165 per cent in 1918.

Prolonging Life of Screens

The October issue of *Link-Belt News* gives a few pointers on the maintenance of vibrating screens in the interest of prolonging their life and reducing the danger of interruption of production because of breakdown:

1. Lubricate the bearings and maintain shaft speeds as recommended by the screen manufacturer. If record of recommendation has been lost, send for a copy and tack it up nearby or keep handy.
2. Maintain proper tension on screen cloths, and keep an eye on condition of cloth from time to time. The cloth is the hardest used part of the screen.
3. Life of screen cloth can be prolonged by feeding the material to screen uniformly over the entire width of screen cloth; and if material is abrasive, by doing so as gently as possible.
4. Check clearances occasionally to assure free movement of screen box. In other words, guard against interference between screen box and chutes or hoppers.
5. Keep screen frame well painted.
6. Check alignment of drive.
7. Keep the screen clean when not in operation.

Phosphate Rock Price Regulations

ELIMINATION of the uneven price structure prevailing for the Florida and Tennessee phosphate rock industry as well as provision for more adequate production of the higher grades of this important fertilizer material are provided in a new price schedule, Maximum Price Regulation No. 240 (Florida Land Pebble Phosphate Rock and Tennessee Brown Phosphate Rock) issued on October 14th by the Office of Price Administration.

The measure, which applies only to phosphate rock produced in Florida and Tennessee establishes specific dollars and cents maximum prices about 20 cents per ton under current levels for the lower grades and at approximately the same level as those now prevailing for the higher grades. The regulation is effective October 19, 1942.

Since nearly 95 per cent of the mining of phosphate rock in the country is confined to the land pebble phosphate rock found in prehistoric river beds of Florida and to brown phosphate rock found in the hills of Tennessee, OPA determined as a practical matter, to cover only those types by special regulation. The small per cent of production of the various other types, mined along the South Atlantic seaboard and in some of the Rocky Mountain states, remains under the General Maximum Price Regulation.

Many prices established for individual mines under the General Maximum Price Regulation were unrepresentative, OPA said, since March 1942 sales were made at prices established under long-term contracts, some of which were entered into as far back as 1935. The majority of these contracts contained prices for high grade phosphate rock actually lower than the prices for the more inferior grades and freezing of this price pattern has tended to curtail output of the higher grades.

At the same time, substitution of rail transportation for customary shipments by coast-wise steamer, has increased freight charges greatly and, as a result, substantially increased demand for the high grades of phosphate rock on the part of fertilizer and chemical manufacturers, the main consumers. As phosphate rock is shipped on an f. o. b. mines basis, consumers are forced to use the highest grades obtainable, which cost no more to ship than grades with a lower B. P. L. (bone phosphate of lime) content, in order to offset somewhat the increased transportation charges.

This measure remedies this situation by establishing maximum prices for the various grades in a more consistent relationship than was possible under the General Maximum Price Regulation, thus removing the main factor hindering greater output of the higher grade.

The uneven price structure in the industry was aggravated by the fact that OPA requested Florida

producers in February, 1942, not to put into effect escalator clauses contained in most contracts, all of which provide for increases and decreases in selling prices in relation to the cost of fuel oil and labor. Under the General Maximum Price Regulation, those companies adhering to this request were placed at a disadvantage compared to those which, irrespective of the request, took advantage of their escalator clause. This discrepancy is eliminated by the regulation.

As sales of both Florida and Tennessee phosphate rock are made to the same classes of fertilizer, chemical and iron manufacturers, it was believed advisable to include both areas in the same regulation, OPA officials explained. However, as costs of production vary substantially between the two states—those in Tennessee being higher—the regulation sets forth the maximum prices for the two types of phosphate rock in two separate schedules.

The specific prices for Florida miners, based on gross ton, f. o. b. cars at mines, range from \$2 for 68/66 per cent B. P. L. to \$5 for 77/76 per cent B. P. L. content. Specific increases and decreases in price are provided for each of the five B. P. L. grades listed, depending upon the percentage variations of the B. P. L. content.

In addition, dollars and cents prices are named for special sizes of B. P. L. grades as well as charges which may be added for grinding, calcining, car linings, and car door boards, and so forth. The measure also fixes dollars and cents prices for standard grades of the Florida finely ground phosphate rock, ranging from \$2.75 per net ton 30 per cent P_2O_5 for 65.5 per cent B. P. L. grade, to \$3.25 per net ton 32 per cent P_2O_5 for 70 per cent B. P. L. grade, the grades being limited to three. In addition, \$2.29 per gross ton is established for the Florida phosphate dust collected in the processing of both finely ground and unground rock.

Prices provided by the regulation for phosphate rock mined in Tennessee range on the average of \$2 per ton higher than in Florida, reflecting higher costs of production. The most important higher cost factors are added labor and transportation costs involved in Tennessee in transporting rock from new deposits to processing equipment located at old deposits, many of which are exhausted.

PART 1367—FERTILIZERS (Maximum Price Regulation 240)

FLORIDA LAND PEBBLE PHOSPHATE ROCK AND TENNESSEE BROWN PHOSPHATE ROCK

In the judgment of the Price Administrator it is necessary and proper to establish maximum prices for sales by miners of Florida land pebble phosphate rock and Tennessee brown phosphate rock. Sales by others

than miners, and all sales of other kinds of phosphate rock are subject to the General Maximum Price Regulation.¹ The maximum prices established by this Maximum Price Regulation No. 240 are, in the judgment of the Price Administrator, generally fair and equitable and will effectuate the purposes of the Emergency Price Control Act of 1942. The Price Administrator has ascertained and given due consideration to the prices established by the General Maximum Price Regulation, and has made adjustments for such relevant factors as he has determined and deemed to be of general applicability. So far as practicable the Price Administrator has advised and consulted with representative members of the industry which will be affected by this regulation.

A statement of the considerations involved in the issuance of this regulation has been issued simultaneously herewith and has been filed with the Division of the Federal Register.

Therefore, under the authority vested in the Price Administrator by the Emergency Price Control Act of 1942, as amended, and Executive Order No. 9250 this Maximum Price Regulation No. 240 is hereby issued.

AUTHORITY: §§ 1367.101, to 1367.114, inclusive, issued under Pub. Law 421, 77th Cong., Pub. Law 729, 77th Cong., E. O. 9250, 7 F. R. 7871.

§ 1367.101. *Maximum Prices for Florida land pebble phosphate rock and Tennessee brown phosphate rock.* On and after October 19, 1942 regardless of any contract, agreement or other obligation, no miner of Florida land pebble phosphate rock and Tennessee brown phosphate rock shall sell or deliver such phosphate rock, and no person in the course of business shall buy or receive such phosphate rock from a miner at prices higher than prices set forth in Appendix A and Appendix B, respectively, incorporated herein as §§ 1367.113 and 1367.114; and no person shall agree, offer, solicit or attempt to do any of the foregoing. The provisions of this section shall not be applicable to sales or deliveries of such phosphate rock to a purchaser, if prior to October 19, 1942 such phosphate rock had been received by a carrier, other than a carrier owned or controlled by the seller, for shipment to such purchaser.

§ 1367.102 *Less than maximum prices.* Lower prices than those set forth in Appendix A and Appendix B (§§ 1367.113 and 1367.114) may be charged, demanded, paid or offered.

§ 1367.103 *Export sales.* The provisions of the Revised Maximum Export Price Regulation² thereto shall be applicable to every sale of Florida land pebble phosphate rock and Tennessee brown phosphate rock to be shipped for export.

§ 1367.104 *Conditional agreements.* No miner of Florida land pebble phosphate rock or Tennessee brown

phosphate rock shall enter into an agreement permitting the adjustment of the prices to prices which may be higher than the maximum prices provided by §§ 1367.113 and 1367.114, in the event that this Maximum Price Regulation No. 240 is amended or determined by a court to be invalid or upon any other contingency: *Provided*, That if a petition for amendment (or for exception) has been duly filed, and such petition requires extensive consideration, and the Administrator determines that an exception would be in the public interest pending such consideration, the Administrator may, on application, grant an exception from the provisions of this section permitting the making of contracts adjustable upon the granting of this petition for amendment (or for adjustment or exception, as the case may be). Requests for such an exception may be included in the aforesaid petition for amendment (or for adjustment or for exception).

§ 1367.105 *Evasion.* The price limitations set forth in this Maximum Price Regulation No. 240 shall not be evaded, whether by direct or indirect methods, in connection with an offer, solicitation, agreement, sale, delivery, purchase or receipt of or relating to Florida land pebble phosphate rock and Tennessee brown phosphate rock, alone or in conjunction with any other commodity or by way of commission, service, transportation, or other charge, or discount, premium or other privilege, or by tying-agreement or other trade understanding or otherwise.

§ 1367.106 *Records and reports.* (a) On and after October 19, 1942 every miner of Florida land pebble phosphate rock and Tennessee brown phosphate rock who offers, agrees to sell, sells, or delivers such phosphate rock shall keep for inspection by the Office of Price Administration for so long as the Emergency Price Control Act of 1942 remains in effect, a complete and accurate record of every such offer, agreement, purchase, sale or delivery showing the date thereof, the name and address, the amount of the transportation charges paid by the miner and the quantity, grade and size sold.

(b) Persons affected by this Maximum Price Regulation No. 240 shall submit such reports to the Office of Price Administration as it may from time to time require.

§ 1367.107 *Licensing*—(a) *License required.* A license is hereby required of every miner now or hereafter selling to any person Florida land pebble phosphate rock or Tennessee brown phosphate rock, or both, for which maximum prices are established by this Maximum Price Regulation No. 240.

(b) *License granted.* Effective October 19, 1942, every miner now or hereafter selling to any person Florida land pebble phosphate rock or Tennessee brown phosphate rock, or both, for which maximum prices are established by this Maximum Price Regulation No. 240, is hereby granted a license as a condition of selling any such phosphate rock. The license hereby granted shall, unless suspended as provided by the

(Continued on page 22)

¹ 7 F. R. 3153, 3330, 3666, 3990, 3991, 4339, 4487, 4659, 4738, 5027, 5276, 5192, 5365, 5445, 5565, 5484, 5775, 5784, 5783, 6058, 6081, 6007, 6216, 6615, 6794, 6939, 7093, 7322, 7454, 7758, 7913.

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Farm Prices, Costs, and Wages

Prices received by farmers in mid-September averaged 163 per cent of the August 1909-July 1914 base period, the period used in computing parity prices. This was 24 points higher than a year ago. The index of prices paid by farmers for commodities they buy, interest, and taxes was 152, which was 14 points higher than a year earlier. The ratio of prices received to prices paid, interest, and taxes was 107. Stating it a little differently, prices of farm products in September were at 107 per cent of parity, as parity has been computed in the past.

While the general level of prices paid by farmers in September was 152 per cent of the pre-World War I average, some prices were higher than that and others were lower. The index of prices of commodities used in family maintenance, such as food, clothing, and furniture, stood at 155. The feedstuffs index was 150, but the seed price index was up to 190. Fertilizer prices, on the other hand, were down to 112 as measured by the U. S. Department of Agriculture. That put them at the lowest point of any group of commodities bought by farmers. If other items were priced as low, prices received by farmers would have been, not 107 per cent of parity, but 146 per cent.

As the recent discussion in Congress on the anti-inflation bills has emphasized, there is one item of farm costs which has not been taken into consideration in the computation of parity. That is the cost of farm labor. If farm wage rates had been included in the parity formula from 1931 through 1939, the inclusion would have resulted in lowering parity prices in every year in that period. It would have had no effect in 1940. It would have raised parity prices last year and this.

Prices paid by farmers, interest and taxes now both included when determining parity prices, and farm wage rates were both at 126 per cent of the base period in 1926. But by July 1942 (the latest month for which data are now available) the farm wage rate index was up to 202, a jump of 60 per cent. This compares with a rise of only 21 per cent in the index of prices paid, interest, and taxes.

Of more importance to agriculture at the present time than either prices or farm wage rates is farm labor supply. On July 1 the demand for farm labor was 99.4 per cent of normal; the supply was only 57.5 per cent of normal. Prices received mean nothing if the crop can't be harvested, just as wages paid the hired hand mean nothing if there is no hired hand.

Midwest Fertilizer Conference

The fertilizer conference called by the Middle West Soil Improvement Committee and held in Chicago October 15th and 16th was attended by fully 100 representatives of the industry, of farm organizations, agronomists, and horticulturists. R. P. Koos called the meeting to order and, after making a brief statement, called on B. E. Meguschar, who presided during the day. Agronomists and horticulturists representing Ohio, Indiana, Michigan, Wisconsin, Illinois, Minnesota, Iowa, and Missouri were called upon and presented their views as to minimum nitrogen needs of their States. The agronomists then met separately with Dr. C. E. Millar serving as chairman and H. R. Smalley as secretary. Their recommendations were then presented to the entire group by Dr. Millar and Mr. Smalley. The agronomists urged WPB to allocate substantially more nitrogen for use in the Midwest than has thus far been allocated, particularly for use on fruits, vegetables including canning crops, sugar beets, and corn, with special consideration being given to hybrid seed corn production. They pointed out that in omitting nitrogen from wheat fertilizers the Middle West has already given up 25 per cent of its nitrogen. They are willing that it be omitted also from fertilizers for spring-sown grains but feel that further cuts would seriously interfere with the production of food crops and livestock products.

George Kingsbury presided at the conference on October 16th. T. E. Milliman pointed out that there may be some shortage of potash due to increased demand, also of concentrated superphosphate due to heavier shipments to Great Britain. He stated that a 3-8-7 with $\frac{1}{2}$ unit of chemical and $2\frac{1}{2}$ units of organic nitrogen would probably be added to all State lists as a victory garden special, and the idea was approved by the group. W. F. Watkins, U. S. D. A., discussed the nitrogen requirements of crops. He said that the N. F. A. survey of 1938 was used at the start but had been supplemented by information obtained from the States and from Federal sources. George McCarty of WPB spoke briefly on nitrogen allocation. He emphasized that additional nitrogen will be allocated to Midwest manufacturers and that inequities will be corrected in so far as possible. M. K. Derrick, now with WPB, discussed the plan of distribution proposed by the Special Industry Committee after which it was approved both by the agricultural workers and the industry, provided

enough additional nitrogen is allocated to make it operative.

R. A. Payne of OPA discussed oil seed meals, but the discussion indicated that the more expensive oil seed meal nitrogen will not be used on field crops in the Midwest. Soybean meal cannot be purchased now for delivery in the next four months.

Cotton Income Increases

According to the U. S. Department of Agriculture, the income from the 1942 cotton crop, based on September prices, will be about $1\frac{1}{2}$ billion dollars. This will be the highest return to cotton growers since 1925-1928 and will be 38 per cent above last year's returns. The September farm prices for lint, 18.59 cents per pound, was the highest for any September since 1927.

California Fertilizer Sales Increase

Fertilizer sales in California for the first six months of 1942 were 8 per cent higher than the same period of 1941 and 15 per cent higher than 1940. The second quarter showed a slight decrease from 1941, but the notable increase during the first quarter more than made up the difference. The figures for the January-June period are: 152,622 tons in 1942; 141,508 tons in 1941; 132,645 tons in 1940.

Obituary

A. F. STOCK

Archie F. Stock, vice-president and controller of the American Agricultural Chemical Company, died in a hospital in this city, October 20, soon after suffering a heart attack on the way to his office. He was forty-eight years of age.

Born in Buffalo, Mr. Stock worked for the Gould Coupler Company and the Gould Storage Battery Company, this city, in 1911-14, and was controller of the latter concern in 1914-16. He was with the Stanley Aniline Chemical Company in 1917. After serving with the Army in World War I, Mr. Stock became affiliated with the management and industrial engineering field. In 1925-30, he was treasurer and director of the Manhattan Shirt Company. In 1931 he was treasurer of the Knox Hat Company. He became controller of the American Agricultural Chemical Company in 1932, vice-president in 1933, and a director in 1934.

Surviving are his wife and a son.

August Superphosphate Production

Superphosphate production continues to increase. Output in August, according to reports by acidulators to The National Fertilizer Association, was 29 per cent larger than a year earlier. Production in both the northern and southern areas shows substantial increases over August 1941. Shipments were also considerably larger than a year ago.

Stocks of bulk superphosphate at the end of August were larger than they had been a year earlier, with most of the rise taking place at northern plants. Superphosphate in base and mixed goods, however, was at a much lower level than on August 31, 1941.

Due to a change in the list of reporting acidulators, the data in the table below are not comparable with statistics published in past issues. The data are comparable for the two years shown, being based on reports from the same companies for the two periods.

Superphosphate Production, Shipments, and Stocks for August, 1941 and 1942
Equivalent Tons, basis 16% A. P. A.

	United States	
	1942	1941
August		
Stocks—First of month:		
Bulk superphosphate....	899,872	744,465
Base and mixed goods....	192,438	327,846
Production:		
Bulk superphosphate....	403,334	313,368
Base and mixed goods....	10,062	11,258
Total Production.....	413,396	324,626
Other Receipts*.....	78,865	54,238
Book Adjustments.....	+6,115	—5,014
Total Supply.....	1,590,686	1,446,161
Total Shipments.....	378,196	223,978
Stocks—End of Month:		
Bulk superphosphate....	918,655	796,075
Base and mixed goods....	293,885	426,108
Total Stocks.....	1,212,490	1,222,183

*Includes inter-company transfers.
Base includes wet and/or dry base.

October Cotton Report

A United States cotton crop of 13,818,000 bales is forecast by the Crop Reporting Board of the United States Department of Agriculture, based on conditions as of October 1, 1942. This is a decrease of 210,000 bales from the forecast as of September 1, and compares with 10,744,000 bales ginned in 1941 and 13,109,000 bales, the 10-year (1931-40) average. The indicated record yield per acre for the United States of 285.0 pounds compares with 231.9 pounds in 1941 and 215.0 pounds, the 10-year (1931-40) average. The previous record yield was 269.9 pounds per acre in 1937.

Most of the reduction in prospective production occurred in South Carolina, Georgia, Alabama, Louisiana, Oklahoma and Texas, where the crop is not turning out as well as was expected a month ago. Over most of this area, precipitation was above normal during September, and temperatures were below normal. This situation has delayed the maturity of the crop. Infestation of leaf worms is also reported to be unusually heavy in Oklahoma and parts of Texas. These reductions during the month were partly offset by a substantial increase in Arkansas, and moderate increases in Mississippi, Missouri, and North Carolina. In the Western States, the crop is still somewhat later than usual and is, therefore, subject to the adverse effects of early freezes.

Cotton ginnings for the United States were reported by the Bureau of the Census at 5,009,180 running bales (counting round as half bales) ginned from the crop of 1942 prior to October 1, compared with 4,713,059 for 1941 and 3,923,172 for 1940.

With the increased demand for vegetable oils and meals, it is expected that the 1942 crop will be ginned sooner than has been the custom in past years.

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FERTILIZER MATERIALS MARKET

NEW YORK

Some Additional Sulphate of Ammonia Allocated to the Middle West. Increase in Chilean Nitrate Imports Expected. Triple Superphosphate Contracted for Lend-Lease Program Will Curtail Domestic Use

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, October 21, 1942.

Sulphate of Ammonia

Deliveries are continuing on allocation against contracts and recently a few additional quantities have been allocated for shipment to the middle west. However, the general nitrogen position remains about the same with every indication of a considerable shortage of inorganic ammonia.

Nitrate of Soda

It is expected that there will be large deliveries of nitrate made from Chile but it cannot be expected that deliveries will be in sufficient quantities to furnish the ammonia necessary for the fertilizer programs.

Potash

There is practically no material offering at the present time but deliveries are being made continuously against contracts, with every indication that domestic requirements will be fairly well supplied.

Superphosphate

OPA has made a re-adjustment of the price ceilings on both Florida land pebble and Tennessee phosphate rock which should increase the production of superphosphate, which production however, as always, depends on the quantities of sulphuric acid available.

Contracts have been made by our government for large quantities of triple superphosphate for shipment against the Lend-Lease program so that the supply of this material for domestic use during the next six months will be curtailed greatly. With this curtailment in the supply of triple superphosphate there will naturally be an increased demand for ordinary superphosphate. As to what the position of triple superphosphate will be after April 1st, is a question, but it

is possible that all triple superphosphate will be requisitioned for export after that date.

Nitrogenous

Demand continues for this material with very little, if any, material being offered, although deliveries are being made regularly against contracts previously made.

BALTIMORE

Feed Demand for Organic Ammoniates Curtails Use for Fertilizers. Lower Insurance Rates on Burlap May Improve Bag Situation

Exclusive Correspondence to "The American Fertilizer"

BALTIMORE, October 21, 1942.

Business in fertilizer materials has been more or less of routine character which is usual at this time of the year.

Organic Ammoniates.—These are practically out of the class of fertilizer materials, due to a good demand at prevailing high prices for feeding purposes. The nominal market is ceiling price of \$6.00 per unit of nitrogen, f. o. b. shipping point.

The market on vegetable meals continues practically unchanged, and unless manufacturers are able to secure a premium on mixed goods made with these meals, as compared with strictly chemical mixtures, it is anticipated that the volume made with meals will be comparatively small.

Nitrogenous Material.—At the present time there are no offerings on the market, and fertilizer manufacturers are still hopeful of being able to secure release of a larger proportion of mineral or liquid ammonia for the coming spring season's business.

Sulphate of Ammonia.—Deliveries are now being made under allocation, but in reduced quantities as compared with last year.

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Columbus, Ga.
East St. Louis, Ill.
Greensboro, N. C.
Havana, Cuba

Houston, Texas
Jacksonville, Fla.
Montgomery, Ala.
Nashville, Tenn.
New Orleans, La.
New York, N. Y.

Norfolk, Va.
Presque Isle, Me.
San Juan, P. R.
Sandusky, Ohio
Wilmington, N. C.

Nitrate of Soda.—Deliveries of this material are likewise being rationed, and in reduced quantities.

Fish Scrap.—This material is no longer a factor in fertilizer mixtures on account of high price for feeding purposes.

Superphosphate.—A good demand continues and the market remains unchanged on the basis of ceiling price of \$9.60 per ton of 2,000 lb., basis 16 per cent for run-of-pile, f. o. b. producers' works, Baltimore.

Bone Meal.—There is no change in the situation and both raw and steamed bone meal are in short supply with very light demand.

Potash.—With all domestic producers practically sold up, nothing new to report on this.

Bags.—The bag situation remains unchanged and there will probably not be much change until after the turn of the year when shipments of burlap will be arriving under Government war risk insurance rates, which should be materially lower than rates which have been prevailing during the past few months. Up to the present time there have been no sales made for future delivery, but most manufacturers have arranged to cover for their requirements of paper bags, due to the wide difference in comparative prices.

CHARLESTON

**Small Quantity of Nitrogenous on the Market.
Ceiling Prices on Blood Revised Slightly.
Vegetable Meals Scarce**

Exclusive Correspondence to "The American Fertilizer"

CHARLESTON, October 20, 1942.

Nitrogenous.—Producers of this material are still generally out of the market, although there was an extremely small quantity allocated by one producer in the past few days to those buyers in the southeast who had taken a similar quantity last fall. The price

was \$3.70 (\$4.49½ per unit N), delivered in the southeast.

Castor Meal.—The tight situation on this material still continues.

Blood.—OPA has revised the ceiling price for feeding grades down to \$5.38 per unit of ammonia (\$6.54 per unit N), f. o. b. Chicago, but none is being offered to the fertilizer trade.

Cottonseed Meal.—Prices on the 8 per cent grade are as follows: Atlanta, \$35.30; Augusta, \$35.55; Memphis, \$36.00.

Soybean Meal.—Soybean meal for quick shipment is still scarce.

CHICAGO

Fertilizer Organics Supply Scarce. Decision on Vegetable Meals Awaited. Feed Materials in Short Supply

Exclusive Correspondence to "The American Fertilizer"

CHICAGO, October 19, 1942.

Offerings of organics are "conspicuous by their absence," while inquiry continues steady. Definite decision regarding the use of vegetable meals for fertilizer purposes is awaited and, when made, will clarify the organic situation. The trade hopes the decision will be in time for spring business.

Consuming demand for meat scraps and digester tankage is still greater than the output, and producers are looking for supplies.

New ceiling prices on wet rendered tankage are now \$5.53 per unit of ammonia (\$6.72 per unit N), Chicago, which eliminates the \$1.07½ per unit of protein previously permitted. Dried blood ceiling is now \$5.38 (\$6.54 per unit N), Chicago, though none is on the market in this zone.

Other ceiling prices are unchanged.

Manufacturers' Sales Agents for **DOMESTIC**

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AGRICULTURAL GYPSUM

(Continued from page 6)

Oklahoma, and Texas) in which the Spanish and Runner types of peanut are grown and used for oil, food, and stock feed. At present little agricultural gypsum is used to fertilize these types so that the two areas represent large potential markets for this product. Capacity to consume may be measured by 1941 peanut production of 802,515,000 pounds in the Southeast and 223,835,000 pounds in the Southwest compared with 448,340,000 pounds in the Virginia-North Carolina area where land plaster is used. Although other influencing factors are present, the effectiveness of gypsum as a peanut fertilizer may be

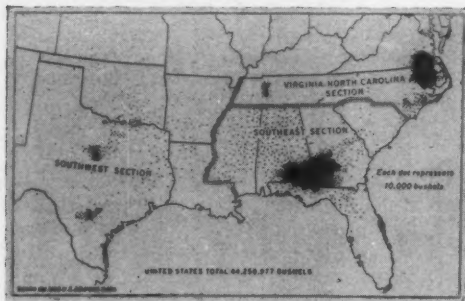


FIGURE 3. Distribution of peanut production, 1936. (Source: "Marketing Peanuts and Peanut Products," Department of Agriculture, Miscellaneous Publication 416 (1941) p. 49).

indicated by average crop yields in 1941 of 1,094 pounds per acre in the Virginia-North Carolina area compared with 746 pounds and 529 pounds, respectively, for the Southeast and Southwest areas (See Table II). In recent years, annual consumption of land plaster in the Virginia-North Carolina section has averaged roughly 240 pounds per acre of peanuts.

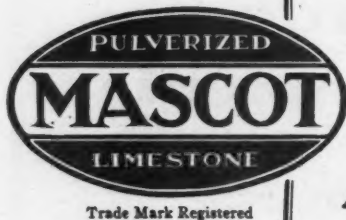
Sources of land plaster easily available to these areas are operations producing natural gypsum in southwestern Virginia, Arkansas, Kansas, Oklahoma, and Texas; by-product calcium sulfate (either as gypsum or anhydrite) from chemical plants at Charleston, S. C.; Tampa, Fla.; and East St. Louis, Ill.; and under peacetime conditions, imported crude from Canada.

Additional expansion of the market for land plaster in the peanut-producing sections is indicated by the recently announced Food for Freedom program of the Agricultural Adjustment Administration for stimulating the growing of oil and fat producing crops. With regard to peanuts, the allotment for the 1942 crop was set at 5,000,000 acres or approximately $2\frac{1}{2}$ times larger than the 1,964,000 acres used in 1941. Because of the growing acceptance of peanut oil and its satisfactory substitution for olive oil, a large part of this acreage expansion probably will carry through the emergency period and thus afford a permanent market, either developed or potential, for land plaster.

TABLE II—SALIENT STATISTICS OF PEANUT-GROWING AREAS OF THE UNITED STATES, 1937-41¹

	ACREAGE PICKED AND THRESHED			YIELD PER ACRE IN POUNDS		
	Va.-N. C. area	Southeast area	Southwest area	Va.-N. C. area	Southeast area	Southwest area
1937.....	398,000	976,000	279,000	1,224	725	450
1938.....	408,000	972,000	328,000	984	775	461
1939.....	424,000	1,051,000	384,000	1,146	506	420
1940.....	428,000	1,096,000	383,000	1,370	788	564
1941.....	2	2	2	1,094	746	529

¹ United States Department of Agriculture publications: Agricultural Statistics 1939, 1940, 1941; General Crop Report as of November 1, 1941. ² Data not available.



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TENNESSEE PHOSPHATE

Absence of Fall Rains Affects Phosphate Mining and Farming. Shipments Continue at High Levels. AAA Date Should be Advanced

Exclusive Correspondence to "The American Fertilizer"

COLUMBIA, TENN., October 20, 1942.

The rains usually expected in the last of September and during October have largely been conspicuous by their absence, and the abundance of water for phosphate washing and for generation of power that seemed so certain when the unusual rains of late summer were in evidence, is beginning to be very doubtful. Already some producers of phosphate rock are being seriously affected by shortage of water, especially those who had the misfortune to accidentally lose large quantities of water from the breakage of storage dams recently reported.

The water table has evidently sunk to an extremely low level and seeding, discing and other work in usual fall tasks, are followed by huge clouds of dust, while much fall plowing has to be suspended because the ground is so hard.

Shipments continue to move out rapidly to all consuming channels and farmers in all the states allowing benefit payments under the AAA program are solicitous that the deadline of September 30th set for application to earn such benefit payments for 1942, be extended at least to December 15th, as it has been no fault of the farmers themselves, but inability of shippers to fill their orders in the short time allowed. In Illinois the time was extended to November 1st, but this will not enable any material part of the phosphate on order, either through AAA or direct from commercial sellers, to be shipped in time to get the \$9.00 per ton allowance of AAA benefit payments. The early date ahead of the end of the year was presumably fixed because in the regular practice of the fertilizer industry most of the superphosphate applied in the fall is in before October 1st, and also to allow the local agencies of AAA to get their reports made up in time for December 31st. It would seem that the emergency now existing which has put so many other calls on producers, both of superphosphate and rock phosphate, would readily justify the extensions of time.

Recent press dispatches give result of recent OPA hearings as permitting advance of previous ceiling prices on low grade phosphate rock but not on high grade, or on ground rock for fertilizer (which is not mentioned). Reason given for not permitting advance on high grade is to encourage the

production of high grade, which might be correct, but appears to be a contradiction of terms.

The ODT No. 18, originally scheduled to go into effect as to maximum loading of cars on September 15th, extended to October 15th, is now extended to November 1st.

OCTOBER CROP REPORT

(Continued from page 8)

sweet corn, green peas, tomatoes, and pimientos—is indicated to be slightly above the record high 1941 tonnage of these crops and nearly 90 per cent in excess of the 10-year (1931-40) average. Kraut, cabbage, and beets for canning are the only two crops with an indicated production lower than in 1941. The harvesting season for tomatoes was practically ended before October 1 by quite general frosts in most of the important late producing States from the Rocky Mountains eastward. Production prospects for tomatoes were reduced about 5 per cent from mid-September indications. It now appears that 3,041,700 tons may be utilized for canning and the manufacture of tomato products, compared with 2,802,500 tons estimated for 1941.

CLARIFYING QUESTIONS ON ORDER M-231

(Continued from page 7)

12. (Q.) I am a nurseryman and commercial florist, propagating a variety of trees, shrubs, annual and perennial plants, together with flowers for sale as cut flowers. Am I permitted to use fertilizer containing chemical nitrogen to prepare such stock for sale?

(A.) Yes, on premises regularly operated by you, if the fertilizer is an approved grade. You are prohibited, however, from using chemical fertilizer containing chemical nitro-

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Swing Hammer
and Cage Type
Tallings
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Vibrating
Screens
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Hoppers
Acid Weigh
Scales

STEDMAN'S FOUNDRY & MACHINE WORKS
AURORA, INDIANA, U. S. A. Founded 1884

A Complete Service

THE strategic factory locations of the American Agricultural Chemical Company, as shown on the accompanying map, assure prompt, dependable service for the complete line of products listed below.

We manufacture all grades of Commercial Fertilizers, Superphosphate, Agrinite Tankage, Bone Black, Bone Black Pigments (Cosmic Black), Dicalcium Phosphate, Monocalcium Phosphate, Gelatin, Glue, Ground Limestone, Crushed Stone, Agricultural Insecticides (including Pyrox, Arsenate of Lead, Calcium Arsenate, etc.), Trisodium and Disodium Phosphate, Phosphorus, Phosphoric Acid, Sulphuric Acid, Salt Cake; and we are importers and/or dealers in Nitrate of Soda, Cyanamid, Potash Salts, Sulphate of Ammonia, Raw Bone Meal, Steamed Bone Meal, Sheep and Goat Manure, Fish, Blood and Tin-Tetrachloride. We mine and sell all grades of Florida Pebble Phosphate Rock.



FACTORIES

Alexandria, Va.	Detroit, Mich.	Pensacola, Fla.
Baltimore, Md.	East St. Louis, Ill.	Pierce, Fla.
Buffalo, N. Y.	Greensboro, N. C.	Port Hope, Ont., Can.
Carteret, N. J.	Havana, Cuba	Presque Isle, Me.
Cayce, S. C.	Henderson, N. C.	Savannah, Ga.
Chambly Canton,	Montgomery, Ala.	Searsport, Maine
Quebec, Can.	Norfolk, Va.	South Amboy, N. J.
Charleston, S. C.	No. Weymouth,	Spartanburg, S. C.
Cincinnati, Ohio	Mass.	West Haven, Conn.
Cleveland, Ohio		Wilmington, N. C.

The AMERICAN AGRICULTURAL CHEMICAL Co.

50 Church Street, New York City

SALES OFFICES



Alexandria, Va.	Columbia, S. C.	Laurel, Miss.	Pierce, Fla.
Baltimore, Md.	Detroit, Mich.	Montgomery, Ala.	Port Hope, Ont., Can.
Buffalo, N. Y.	East St. Louis, Ill.	Montreal, Quebec, Can.	St. Paul, Minnesota
Carteret, N. J.	Greensboro, N. C.	New York, N. Y.	Savannah, Ga.
Charleston, S. C.	Havana, Cuba	Norfolk, Va.	Spartanburg, S. C.
Cincinnati, Ohio	Henderson, N. C.	No. Weymouth, Mass.	Wilmington, N. C.
Cleveland, Ohio	Houlton, Me.	Pensacola, Fla.	

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

gen on your customers' premises. See paragraph (b) (2) (ii).

13. (Q.) As a manufacturer of soluble compressed plant food tablets and of fertilizer containing chemical nitrogen prepared exclusively for use in hydroponics, which include fertilizers containing chemical nitrogen sold as liquid solutions in bottles, am I permitted to continue the manufacture of these products?

(A.) No, but you and distributors, dealers and agents are permitted to sell all of such products which were on hand on September 12, 1942, in packages ready for sale. See paragraphs (c) (2) (iii) and (c) (2) (iv).

14. (Q.) Does the order prohibit the use of chemical fertilizers containing chemical nitrogen on all turf areas, such as athletic fields, polo fields, drill grounds, etc.?

(A.) Yes. See paragraph (b) (2) (ii). However, your attention is directed to Amendment No. 1 to the order which permits deliveries by manufacturers, dealers and agents of any chemical fertilizer containing chemical nitrogen for use on new plantings of grass on airports and airfields of the United States Army, Navy or Coast Guard, or to the use by any person of any chemical fertilizer, including chemical fertilizer containing chemical nitrogen, delivered pursuant to such amendment.

15. (Q.) As a manufacturer, am I permitted to sell superphosphate which carries less than 18 per cent available phosphoric acid?

(A.) No. See paragraph (b) (2) (v) and paragraph (b) (1).

16. (Q.) I have been selling considerable tonnage of mixed fertilizers containing chemical nitrogen for use on various Government projects. May I continue to make such sales?

(A.) No. There is no exception for sales to the Government except as defined in Amendment No. 1 to the order. See answer to question No. 14.

17. (Q.) What restrictions are placed on the sale of organic materials, such as soy bean meal, cottonseed meal and Milorganite?

(A.) There are no restrictions which prohibit the sale of organic materials such as the above, or on such materials as dried and ground cow or sheep manures.

PHOSPHATE ROCK PRICE REGULATION

(Continued from page 11)

Emergency Price Control Act of 1942, continue in force so long as and to the extent that this Maximum Price Regulation No. 240 remains in force.

§ 1367.108 *Enforcement.* (a) Persons violating any provision of this Maximum Price Regulation No. 240 are subject to the criminal penalties, civil enforcement actions, license suspension proceedings and suits for treble damages provided for by the Emergency Price Control Act of 1942.

(b) Persons who have evidence of any violation of this Maximum Price Regulation No. 240 or any price schedule, regulation or order issued by the Office of Price Administration, or of any acts or practices which constitute a violation, are urged to communicate with the nearest district, state or regional office of the Office of Price Administration or its principal office in Washington, D. C.

§ 1367.109 *Petition for amendment.* Persons seeking any modification of this Maximum Price Regulation No. 240 or an adjustment or exception not provided for therein may file petitions for amendment in accordance with the provisions of Procedural Regulation No. 1 issued by the Office of Price Administration.

§ 1367.110 *Applicability of the General Maximum Price Regulation.* Except as provided in § 1367.111 (b), this Maximum Price Regulation No. 240 supersedes the provisions of the General Maximum Price Regulation with respect to sales and deliveries for which maximum prices are established by this regulation.

§ 1367.111 *Definitions.* (a) When used in this Maximum Price Regulation No. 240 the terms:

(1) "Person" includes an individual, corporation, partnership, association, or other organized group of persons or legal successor or representative of any of the foregoing, and includes the United States or any agency thereof, or any other government, or any of its political subdivisions, or any agency of any of the foregoing.

(2) "Miner" means a person who mines or recovers from the soil, phosphate rock and who may process the same to whatever extent before shipment.

(3) "Phosphate rock" means rock composed of mixtures of phosphate minerals the chief of which is tricalcium phosphate or tribasic phosphate of lime, a compound of phosphoric acid and lime chemically described as $Ca_3(PO_4)_2$.

Fertilizer Machinery AND Acidulating Equipment

BATCH MIXERS — PULVERIZERS — CAGE MILLS — SCREENS — SCALES
ELEVATORS, AND ALL OTHER EQUIPMENT FOR COMPLETE PLANTS

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MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.



Specializing in

Sulphate of Ammonia
Low Grade Ammoniates
Superphosphate
Sulphuric Acid
Bags

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Fertilizer plants all over the country—large and small—state their needs and we meet them. Large stocks of seasoned materials and ample modern production facilities enable us to make prompt shipments.

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46 to 48% Available Phosphoric Acid

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Reliability

SPECIFY THREE ELEPHANT



... WHEN BORON IS NEEDED TO CORRECT A DEFICIENCY OF THIS IMPORTANT SECONDARY ELEMENT

Agricultural authorities have shown that a lack of Boron in the soil can result in deficiency diseases which seriously impair the yield and quality of crops.

When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.

Information and references available on request.

AMERICAN POTASH & CHEMICAL CORPORATION

70 PINE STREET, NEW YORK CITY

Pioneer Producers of Muriate of Potash in America

See Page 4

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

(4) "Florida land pebble phosphate rock" means phosphate rock of pebble-like formation mined and recovered in the State of Florida from land as distinguished from river beds.

(5) "Tennessee brown phosphate rock" means phosphate rock, brown in color mined and recovered in the State of Tennessee.

(6) "B. P. L." means bone phosphate of lime, a commercial description of phosphate rock based upon the content tricalcium phosphate or tribasic phosphate of lime ($\text{Ca}_3(\text{PO}_4)_2$).

(7) "Kind" means a phosphate rock described by the name of the state in which it is mined, the basic substance of which it is composed and may include the color of its appearance as for example "Florida land pebble phosphate rock"; "Tennessee brown phosphate rock."

(8) "Grade" means the percentage of phosphorus content expressed in units of bone phosphate of lime or phosphorus pentoxide (P_2O_5).

(b) Unless the context otherwise requires, the definitions set forth in § 1499.20 of the General Maximum Price Regulation and the definitions set forth in section 302 of the Emergency Price Control Act of 1942 shall apply to the terms used herein.

§ 1367.112 *Effective date.* This Maximum Price Regulation No. 240 (§§ 1367.101 to 1367.114 inclusive) shall become effective October 19, 1942.

§ 1367.113 *Appendix A: Maximum prices for Florida land pebble phosphate rock.* The miner may charge any person for Florida land pebble phosphate rock upon the terms and conditions, and for the grades and descriptions, the prices, all as set forth in the following schedule:

A. Underground phosphate rock:

<i>Size</i>	Run of mine in carload lots—washed, dried and unground.
<i>Price</i>	Basis gross ton (2224 lbs.) f. o. b. cars at mines.
<i>Quality</i>	Bone phosphate of lime (B. P. L.) on a dry basis, and not more than 4% combined oxide of iron and aluminum (when determined separately on a dry basis) and not more than 3% moisture.

Grades

68/66% B. P. L.	\$2.00 basis 68% B. P. L., 7½¢ per unit rise to 70% maximum and 15¢ per unit fall to 66% minimum, fractions in proportion.
70/68% B. P. L.	\$2.40 basis 70% B. P. L. 10¢ per unit rise to 72% maximum and 20¢ per unit fall to 68% minimum, fractions in proportion.
72/70% B. P. L.	\$3.00 basis 72% B. P. L., 15¢ per unit rise to 74% maximum and 30¢ per unit fall to 70% minimum, fractions in proportion.

75/74% B. P. L. \$4.00 basis 75% B. P. L., 20¢ per unit rise to 76% maximum and 40¢ per unit fall to 74% minimum, fractions in proportion.

77/76% B. P. L. \$5.00 basis 77% B. P. L., 25¢ per unit rise to 81% maximum and 50¢ per unit fall to 76% minimum, fractions in proportions.

Special sizes

Add 50¢ per gross ton for all pebble rock.

Screened rock after drying for furnace use. Add \$1.00 per gross ton for plus 5/32 inch.

Deduct 50¢ per gross ton for wet rock not dried.

Add \$1.00 per gross ton for calcining basis 1500° Fahrenheit plus 5¢ per gross ton for each even 100° Fahrenheit above 1500° or less 5¢ per gross ton for each 100° below 1500° guaranteed.

Grinding

Add 40¢ per gross ton for grinding 48 to 52% minus 200 mesh.

Add 50¢ per gross ton for grinding 58 to 62% minus 200 mesh.

Car door boards

Add \$2.00 per car for boarding up car doors.

Lining cars

Add 75¢ per car for lining doors. Add \$1.75 per car for lining cars.

Note

Above prices without any guarantee as to oxide of iron and alumina apply to sales to ferrophosphorous and pig iron manufacturers.

B. Finely ground phosphate rock:

Price

Basis net ton (2,000 lbs.) f. o. b. cars at mines in carload lots in bulk.

Quality

Phosphorous pentoxide (P_2O_5) on a dry basis minimum grade guaranteed and not more than 3% moisture.

Ground 85% minus 200 mesh.



for the Fertilizer Plant

**BATCH MIXERS • PULVERIZERS
SCREENS • BUCKET ELEVATORS
CONTINUOUS AMMONIATING EQUIPMENT
BASING, MIXING & BAGGING UNITS
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Phosphate Rock

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RENDERED TANKAGE

PEOPLES OFFICE BUILDING

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Plant Food *for* Fertilizer Sales

*I*N the cultivation of fertilizer orders—through sales literature—a “mixture” of advertising knowledge, a “top dressing” of skilled layout and typography plus “high content” printing, may mean the difference between a spotty crop of orders and the harvesting of a favorable yield in sales tonnage.

The selling of fertilizers of standard grades requires “that extra something” in your direct advertising to enable your brand to overcome present day competition or possible price variations.

You can profitably supplement your agents’ or dealers’ sales efforts with literature which continues to sell after the salesman has left.

May we submit our ideas and printing costs for *your* particular problem?

WARE BROS. COMPANY { PRINTING
Direct Advertising }

1330 VINE STREET :: :: :: :: PHILADELPHIA, PA.

Grades

65.5% B. P. L. \$2.75 per net ton basis 30% P_2O_5 minimum.

68% B. P. L. \$3.00 per net ton basis 31% P_2O_5 minimum.

70% B. P. L. \$3.25 per net ton basis 32% P_2O_5 minimum.

Add 75c per car for partial paper lining and \$2.00 per car for car door boards on ground rock shipped in bulk.

Add \$1.50 per net ton for ground rock in 100 lb. capacity multi-wall paper bags.

Add 30c per net ton for truck load shipments in bulk.

C. Dust collector product:

\$2.29 per gross ton approximately 60% to 75% B. P. L. and fineness of approximately 40 to 69 minus 200 mesh with no guarantee plus \$3.00 per car for partial paper lining and car door boards.

§ 1367.114. *Appendix B—Maximum prices for Tennessee brown phosphate rock.* The miner may charge any person for Tennessee Brown Phosphate Rock upon the terms and conditions, and for the grades and descriptions, the prices, all as set forth in the following schedule:

A. Underground phosphate rock:

Size Run of mine in carload lots—washed, dried and unground .
Price Basis gross ton (2240 lbs) f. o. b. cars at mines.

Quality Bone phosphate of lime (B. P. L.) on a dry basis, combined oxide of iron and alumina (L. & A. determined separately on a dry basis) adjusted basis 2 units B. P. L. for 1 unit I. & A., and not more than 3% moisture.

Grades

68/66% B. P. L. \$4.30 basis 68% B. P. L., 12½c per unit rise to 70% maximum and 15c per unit fall to 66% minimum, fractions in proportion; I. & A. basis 6% with 2 units B. P. L. for one unit I. & A., fractions in proportion, added when below or deducted when above.

70/68% B. P. L. \$4.80 basis 70% B. P. L., 15c per unit rise to 72% maximum and 20c per unit fall to 68% minimum, fractions in proportion; I. & A. basis 5½% with 2 units B. P. L. for 1 unit I. & A., fractions in proportion, added when below or deducted when above.

72/70% B. P. L. \$5.30 basis 72% B. P. L., 20c per unit rise to 75% maximum and

25c per unit fall to 70% minimum, fractions in proportion; I. & A. basis 5½% with 2 units B. P. L. for 1 unit I. & A., fractions in proportion, added when below or deducted when above.

Lump rock

Add 50c per gross ton for screened lump rock of not more than 8% moisture, and with no adjustment for I. & A.

Wet rock

Deduct 50c per gross ton for wet rock not dried.

Calcining

Add \$1.00 per gross ton for calcining basis 1500° Fahrenheit plus 5c per gross ton for each even 100° Fahrenheit above 1500° or less 5c per gross ton for each 100° below 1500° guaranteed.

Grinding

Add 50c per gross ton for grinding 50% minus 200 mesh.

Add 70c per gross ton for grinding 60% minus 200 mesh.

Car door boards

Add \$2.00 per car for boarding up car doors.

Lining cars

Add 75c per car for paper lining doors. Add \$1.75 per car for paper lining car.

B. Finely ground phosphate rock:

Price Basis net ton (2,000 lbs), f. o. b. cars at mines in car load lots in bulk.

Quality Phosphorus pentoxide (P_2O_5) on a dry basis minimum grade guaranteed and not more than 3% moisture, no adjustment for excess grade or I. & A. Ground 95% minus 200 mesh or 85% minus 300 mesh.

Grades

29% P_2O_5 \$4.50 per net ton basis 29% P_2O_5 minimum.

30% P_2O_5 \$4.70 per net ton basis 30% P_2O_5 minimum.

31% P_2O_5 \$4.80 per net ton basis 31% P_2O_5 minimum.

32% P_2O_5 \$5.00 per net ton basis 32% P_2O_5 minimum.

33% P_2O_5 \$5.50 per net ton basis 33% P_2O_5 minimum.

No charge for car liners or car door boards.

Add 30c per net ton for bagging in valve bags which purchaser provides.

Add 30c per net ton for truck load shipments in bulk.

Add \$1.50 per net ton for bagging in 100 lb. multi-wall paper bags.

Issued this 13th day of October 1942.

LEON HENDERSON,
Administrator.

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the number of pounds of raw material for a desired per cent. of plant food in a ton of mixed goods—or find what per cent. of a certain plant food in a ton of fertilizer produced by a specific quantity of raw materials.

No mathematical calculations are necessary. You can find the figures in a few seconds with the aid of

Adams' Improved Pocket Formula Rule

A Great Convenience for the Manufacturer of High Analysis Goods



To make clearer its use, answers to such problems as the following can be quickly obtained:

How much sulphate of ammonia, containing 20 per cent. of nitrogen, would be needed to give $4\frac{1}{2}$ per cent. nitrogen in the finished product?

Seven hundred and fifty pounds of tankage, containing 8 per cent. phosphoric acid are being used in a mixture. What per cent. of phosphoric acid will this supply in the finished goods?

Should the Adams' Formula Rule become soiled from handling, it may be readily cleaned with a damp cloth.

PRICE
\$1.00

TO BE SENT
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Special quotations
on twelve or
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BUYERS' GUIDE • A CLASSIFIED INDEX TO ALL THE ADVERTISERS IN "THE AMERICAN FERTILIZER"



This list contains representative concerns in the Commercial Fertilizer Industry, including fertilizer manufacturers, machinery and equipment manufacturers, dealers in and manufacturers of commercial fertilizer materials and supplies, brokers, chemists, etc. For Alphabetical List of Advertisers, see page 33.



ACID BRICK

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

ACID EGGS

Chemical Construction Corp., New York City.

ACIDULATING UNITS

Chemical Construction Corp., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

AMMO-PHOS

American Cyanamid Co., New York City.

AMMONIA—Anhydrous

Barrett Division, The, Allied Chemical & Dye Corp., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.

AMMONIA LIQUOR

Barrett Division, The, Allied Chemical & Dye Corp., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.

AMMONIA OXIDATION UNITS

Chemical Construction Corp., New York City.

AMMONIATING EQUIPMENT

Sackett & Sons Co., The A. J., Baltimore, Md.

AMMONIUM NITRATE SOLUTIONS

Barrett Division, The, Allied Chemical & Dye Corp., New York City.

AUTOMATIC ELEVATOR TAKEUPS

Sackett & Sons Co., The A. J., Baltimore, Md.

BABBITT

Sackett & Sons Co., The A. J., Baltimore, Md.

BAGS AND BAGGING—Manufacturers

Bagpak, Inc., New York City.
Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.

BAGS—Cotton

Bemis Bro. Bag Co., St. Louis, Mo.

BAGS—Paper

Bagpak, Inc., New York City.
Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.

BAGS (Waterproof)—Manufacturers

Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.

BAGS—Dealers and Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

BAGGING MACHINES—For Filling Sacks

Atlanta Utility Works, East Point, Ga.
Bagpak, Inc., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

BAG PILERS

Link-Belt Company, Philadelphia, Chicago.

BEARINGS

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

BELT LACING

Sackett & Sons Co., The A. J., Baltimore, Md.

BELTING—Chain

Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

BELTING—Leather, Rubber, Canvas

Sackett & Sons Co., The A. J., Baltimore, Md.

BOILERS—Steam

Atlanta Utility Works, East Point, Ga.

BONE BLACK

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Huber & Company, New York City.

BONE PRODUCTS

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BORAX AND BORIC ACID

American Potash and Chem. Corp., New York City.
Pacific Coast Borax Co., New York City.

BROKERS

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Dickerson Co., The, Philadelphia, Pa.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
Keim, Samuel L., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BUCKETS—Elevator

Link-Belt Company, Philadelphia, Chicago
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

A Classified Index to Advertisers in
"The American Fertilizer"

BUYERS' GUIDE

For an Alphabetical List of all the
Advertisers, see page 33

BUCKETS—For Hoists, Cranes, etc., Clam Shell, Orange Peel, Drag Line, Special; Electrically Operated and Multi Power

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.

BURNERS—Sulphur

Chemical Construction Corp., New York City.

BURNERS—Oil

Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.

CABLEWAYS

Hayward Company, The, New York City.

CARBONATE OF AMMONIA

American Agricultural Chemical Co., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.

CARS—For Moving Materials

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CARTS—Fertilizer, Standard and Roller Bearing

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

CASTINGS—Acid Resisting

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.

CASTINGS—Iron and Steel

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CEMENT—Acid-Proof

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

CHAIN DRIVES—Silent

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHAINS AND SPROCKETS

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHAMBERS—Acid

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

CHEMICAL APPARATUS

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

CHEMICALS

American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Huber & Company, New York City.

CHEMICALS—Continued

International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Phosphate Mining Co., The, New York City.
Wellmann, William E., Baltimore, Md.

CHEMICAL PLANT CONSTRUCTION

Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHEMISTS AND ASSAYERS

Gascoyne & Co., Baltimore, Md.
Shuey & Company, Inc., Savannah, Ga.
Stillwell & Gladding, New York City.
Wiley & Company, Baltimore, Md.

CLUTCHES

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CONCENTRATORS—Sulphuric Acid

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

CONDITIONERS AND FILLERS

American Limestone Co., Knoxville, Tenn.
Dickerson Co., The, Philadelphia, Pa.
Phosphate Mining Co., The, New York City.

CONTACT ACID PLANTS

Chemical Construction Corp., New York City.

COPPER SULPHATE

Tennessee Corporation, Atlanta, Ga.

COTTONSEED PRODUCTS

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

CRANES AND DERRICKS

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

CYANAMID

American Agricultural Chemical Co., New York City
American Cyanamid Co., New York City.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Jett, Joseph C., Norfolk, Va.
Wellmann, William E., Baltimore, Md.

DENS—Superphosphate

Chemical Construction Corp., New York City.
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Gaillard Acid Dispersers, Contact Process Sulphuric
Acid Plants.

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Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

DRYERS—Direct Heat

Sackett & Sons Co., The A. J., Baltimore, Md.

DRIVES—Electric

Link-Belt Company, Philadelphia, Chicago.

DUMP CARS

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

DUST COLLECTING SYSTEMS

Sackett & Sons Co., The A. J., Baltimore, Md.

ELECTRIC MOTORS AND APPLIANCES

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

ELEVATORS

Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
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Stedman's Foundry and Mach. Works, Aurora, Ind.

ELEVATORS AND CONVEYORS—Portable

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

ENGINEERS—Chemical and Industrial

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

ENGINES—Steam

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

EXCAVATORS AND DREDGES—Drag Line and Cableway

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Link Belt Speeder Corp., Chicago, Ill., and Cedar Rapids, Iowa.

FERTILIZER MANUFACTURERS

American Agricultural Chemical Co., New York City.
American Cyanamid Company, New York City.
Armour Fertilizer Works, Atlanta, Ga.
Farmers Fertilizer Company, Columbus, Ohio.
International Minerals and Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

FISH SCRAP AND OIL

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

FOUNDERS AND MACHINISTS

Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Link-Belt Company, Philadelphia, Chicago.
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Stedman's Foundry and Mach. Works, Aurora, Ind.

GARBAGE TANKAGE

Wellmann, William E., Baltimore, Md.

GEARS—Machine Moulded and Cut

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

GEARS—Silent

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

GELATINE AND GLUE

American Agricultural Chemical Co., New York City.

GUANO

Baker & Bro., H. J., New York City.

HOISTS—Electric, Floor and Cage Operated, Portable

Hayward Company, The, New York City.

HOPPERS

Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
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IMPORTERS, EXPORTERS

Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
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IRON SULPHATE

Tennessee Corporation, Atlanta, Ga.

INSECTICIDES

American Agricultural Chemical Co., New York City.

LACING—Belt

Sackett & Sons Co., The A. J., Baltimore, Md.

LIMESTONE

American Agricultural Chemical Co., New York City.
American Limestone Co., Knoxville, Tenn.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

LOADERS—Car and Wagon, for Fertilizers

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Acid Making

Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.
Duriron Co., Inc., The, Dayton, Ohio.
Fairlie, Andrew M., Atlanta, Ga.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Coal and Ash Handling

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Elevating and Conveying

Atlanta Utility Works, East Point, Ga.
Hayward Company, The, New York City.
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Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

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MIXERS

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Stedman's Foundry and Mach. Works, Aurora, Ind.

NITRATE OF SODA

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
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Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

NITRATE OVENS AND APPARATUS

Chemical Construction Corp., New York City.

NITROGEN SOLUTIONS

Barrett Division, The, Allied Chemical & Dye Corp., New York City.

NITROGENOUS ORGANIC MATERIAL

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
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Smith-Rowland Co., Norfolk, Va.
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NOZZLES—Spray

Monarch Mfg. Works, Philadelphia, Pa.

PACKING—For Acid Towers

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

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Chemical Construction Corp., New York City.

PHOSPHATE ROCK

American Agricultural Chemical Co., New York City.
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Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
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Ruhm, H. D., Mount Pleasant, Tenn.
Schmaltz, Jos. H., Chicago, Ill.
Southern Phosphate Corp., Baltimore, Md.
Virginia-Carolina Chemical Corp. (Mining Dept.), Richmond, Va.
Wellmann, William E., Baltimore, Md.

PIPE—Acid Resisting

Duriron Co., Inc., The, Dayton, Ohio.

PIPES—Chemical Stoneware

Chemical Construction Corp., New York City.

PIPES—Wooden

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PLANT CONSTRUCTION—Fertilizer and Acid

Chemical Construction Corp., New York City.
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Sackett & Sons Co., The A. J., Baltimore, Md.

POTASH SALTS—Dealers and Brokers

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

POTASH SALTS—Manufacturers

American Potash and Chem. Corp., New York City.
Potash Co. of America, New York City.
International Minerals & Chemical Corp., Chicago, Ill.
United States Potash Co., New York City.

PULLEYS AND HANGERS

Atlanta Utility Works, East Point, Ga.
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PUMPS—Acid-Resisting

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

PYRITES—Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., New York City.
Wellmann, William E., Baltimore, Md.

QUARTZ

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

RINGS—Sulphuric Acid Tower

Chemical Construction Corp., New York City.

ROUGH AMMONIATES

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Schmaltz, Jos. H., Chicago, Ill.
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SHOVELS—Power

Link-Belt Company, Philadelphia, Chicago.
Link-Belt Speeder Corporation, Chicago, Ill., and Cedar
Rapids, Iowa.
Sackett & Sons Co., The A. J., Baltimore, Md.

SPRAYS—Acid Chambers

Monarch Mfg. Works, Inc., Philadelphia, Pa.

SPROCKET WHEELS (See Chains and Sprockets)

STACKS

Sackett & Sons Co., The A. J., Baltimore, Md.

SULPHATE OF AMMONIA

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New
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Bradley & Baker, New York City.
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Hydrocarbon Products Co., New York City.
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McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

SULPHUR

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Freeport Sulphur Co., New York City.
Texas Gulf Sulphur Co., New York City.

SULPHURIC ACID

American Agricultural Chemical Co., New York City.
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Ashcraft-Wilkinson Co., Atlanta, Ga.
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International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.

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Wellmann, William E., Baltimore, Md.

SUPERPHOSPHATE

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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
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Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
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McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp.,
Tampa, Fla.
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SUPERPHOSPHATE—Concentrated

Armour Fertilizer Works, Atlanta, Ga.
International Minerals & Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp.,
Tampa, Fla.

SYPHONS—For Acid

Monarch Mfg. Works, Inc., Philadelphia, Pa.

TALLOW AND GREASE

American Agricultural Chemical Co., New York City.

TANKAGE

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
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Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
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Wellmann, William E., Baltimore, Md.

TANKAGE—Garbage

Huber & Company, New York City.

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Sackett & Sons Co., The A. J., Baltimore, Md.

TILE—Acid-Proof

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

TOWERS—Acid and Absorption

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

UNLOADERS—Car and Boat

Hayward Company, The, New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

UREA

DuPont de Nemours & Co., E. I., Wilmington, Del.

UREA-AMMONIA LIQUOR

DuPont de Nemours & Co., E. I., Wilmington, Del.

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See Catalog 6-C



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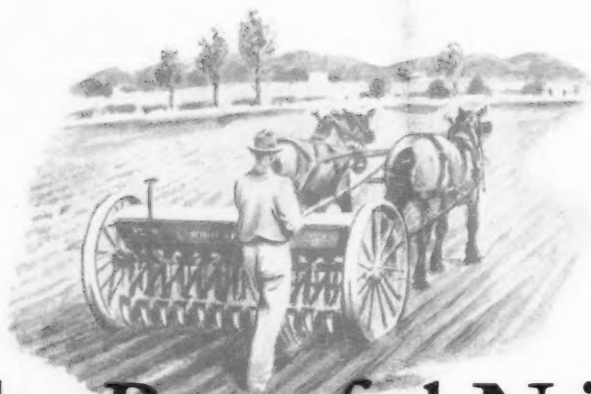


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